

CLAIMS

What is claimed is:

1. A satellite broadcasting system,
comprising:

5 a transmitter including transmitting means for
transmitting data signals on first and second
communication channels via satellite; and

a receiver including

10 receiving means for receiving the data
signals on the first and second communication
channels, and

tuning means responsive to a selected
communication channel indication for tuning in
a particular one of the first and second
15 communication channels identified by the
selected communication channel indication;

wherein the transmitter transmits to the
receiver on the particular communication channel
based on the selected communication channel

20 ~~indication~~

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2. The satellite broadcasting system of claim 1, wherein the receiver further includes:

selecting means coupled with the receiving means for selecting one of the first and second communication channels and developing a selected communication channel indication; and

communicating means for communicating the selected communication channel indication to the transmitter.

10 3. The satellite broadcasting system of claim 2, wherein each of the first and second communication channels has a load level, and wherein the selecting means selects a selected communication channel according to which communication channel has
15 the lowest load level. C

4. The satellite broadcasting system of claim 3, wherein the communicating means provides the transmitter with a selected communication channel indication via a dial-in connection to the
20 ~~transmitter~~

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5. The satellite broadcasting system of claim 4, wherein the transmitter is responsive to the indication and thereby transmits to the receiver on the selected communication channel.

6. The satellite broadcasting system of claim 2, wherein the first communication channel has a first bit rate and the second communication channel has a second bit rate greater than the first bit rate, and wherein signals received by the receiver are characterized at any given time by an energy-per-bit to noise ratio, and wherein the receiver further includes means for monitoring the energy-per-bit to noise ratio.

7. The satellite broadcasting system of claim 6, wherein if the receiver is tuned to the second communication channel, the selecting means selects the first communication channel if the energy-per-bit to noise ratio of the receiver falls below a predetermined shift-low threshold.

8. The satellite broadcasting system of claim 6, wherein each communication channel has a load factor, and wherein if the receiver is tuned to the first communication channel, the selecting means selects the second communication channel if the energy-per-bit to noise ratio of the receiver rises above a predetermined shift-high threshold and the load factor of the second communication channel is less than the load factor of the first communication channel.

9. The satellite broadcasting system of claim 2, wherein the first communication channel has a first power level and the second communication channel has a second power level lower than the first power level, and wherein signals received by the receiver are characterized at any given time by an energy-per-bit to noise ratio, and wherein the receiver further includes means for monitoring the energy-per-bit to noise ratio.

10 10. The satellite broadcasting system of claim 9, wherein if the receiver is tuned to the second communication channel, the selecting means selects the first communication channel if the energy-per-bit to noise ratio of the receiver falls below a first predetermined threshold.

11. The satellite broadcasting system of claim 9, wherein each communication channel has a load factor, and wherein if the receiver is tuned to the first communication channel, the selecting means selects the second communication channel if the energy-per-bit to noise ratio of the receiver rises above a second predetermined threshold and the load factor of the second communication channel is less than the load factor of the first communication channel.

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16. The satellite broadcasting system of claim 12, wherein the first communication channel has a first bit rate and the second communication channel has a second bit rate greater than the first bit rate, and wherein signals received by the receiver are characterized at any given time by an energy-per-bit to noise ratio, and wherein the receiver further includes means for monitoring the energy-per-bit to noise ratio, and wherein the receiver periodically communicates the energy-per-bit to noise ratio to the transmitter.

17. The satellite broadcasting system of claim 16, wherein if the receiver is tuned to the second communication channel, the selecting means selects the first communication channel if the energy-per-bit to noise ratio of the receiver falls below a predetermined shift-low threshold.

20. The satellite broadcasting system of claim 19, wherein if the receiver is tuned to the second communication channel, the selecting means selects the first communication channel if the energy-per-bit to noise ratio of the receiver falls below a first predetermined shift threshold.

21. The satellite broadcasting system of claim 19, wherein each communication channel has a load factor, and wherein if the receiver is tuned to the first communication channel, the selecting means selects the second communication channel if the energy-per-bit to noise ratio of the receiver rises above a predetermined shift-low threshold and the load factor of the second communication channel is less than the load factor of the first communication channel.

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22. The satellite broadcasting system of claim 1, wherein the transmitter transmits digital data signals at a first bit rate on the first communication channel and transmits digital data signals at a second bit rate different from the first bit rate on the second communication channel.

23. The satellite broadcasting system of claim 22, wherein the first bit rate is greater than the second bit rate.

24. The satellite broadcasting system of claim 1 wherein the transmitter transmits digital data bursts at a first power level on the first communication channel and transmits digital data bursts at a second power level different from the first power level on the second communication channel.

25. The satellite broadcasting system of claim
24, wherein the first power level is greater than
10 the second power level.

26. The satellite broadcasting system of claim 1, wherein the transmitter transmits digital data signals at equal bit rates on the first and second communication channels.

15 27. The satellite broadcasting system of claim
1, wherein the first and second communication
channels comprise signals broadcast by a single
satellite transponder at different frequencies.

28. The satellite broadcasting system of claim 1, wherein the first and second communication channels comprise respective first and second signals broadcast by at least one satellite at a single frequency, and wherein one of the first and second signals has a different polarization than the other.

30. The satellite broadcasting system of claim 1, wherein the first and second communication channels comprise signals broadcast by a plurality of satellite transponders.

31. The satellite broadcasting system of claim 1, wherein the first and second communication channels comprise signals broadcast by a single satellite.

- 37 -

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33. The satellite broadcasting system of claim 32, wherein the transmitter includes means for determining a communication channel load factor for each of the plurality of communication channels.

5 34. The satellite broadcasting system of claim 33, wherein the transmitter transmits to the receiver on a particular one of the communication channels based on the communication channel load factors.

10 35. The satellite broadcasting system of claim 33, wherein the transmitter transmits to the receiver on a channel selected in an effort substantially uniformly allocate communication among the communication channels.

15 36. The satellite broadcasting system of claim 33, wherein the first communication channel comprises a first digital signal having a first bit rate and a first communication channel load level and the second communication channel comprises a
20 second digital signal having a second bit rate greater than the first bit rate and a second communication channel load level.

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37. The satellite broadcasting system of claim
36, wherein the communication channel load factor of
the first communication channel exceeds the first
communication channel load level and the
5 communication channel load factor of the second
communication channel substantially equals the
second communication channel load level.

38. The satellite broadcasting system of claim
37, wherein the communication channel load factor of
10 the first communication channel exceeds the first
communication channel load level by about twenty
~~five per cent.~~

Sub B8 39. The satellite broadcasting system of claim
1, wherein the transmitter broadcasts information
15 pertaining to each communication channel.

40. The satellite broadcasting system of claim
39, wherein each communication channel is
characterized by a frequency, a bit rate, a power
level, and a load factor, and wherein the
20 information pertaining to each communication channel
comprises the communication channel's frequency, bit
rate, power level, or load factor.

Sub B9 41. A satellite broadcasting system,
~~comprising,~~

a transmitter including transmitting means for transmitting data signals on first and second communication channels via satellite; and

a computer terminal including

5 receiving means for receiving the data signals on the first and second communication channels, and

tuning means responsive to a selected communication channel indication for tuning in
10 a particular one of the first and second communication channels identified by the selected communication channel indication;
wherein the transmitter transmits to the computer terminal on the particular communication
15 channel based on the selected communication channel indication

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